

Notice of Allowability

Application No.

09/634,912

Applicant(s)

SHIMOJOH ET AL.

Examiner

Stephen C. Cunningham

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address--

All claims being allowable, PROSECUTION ON THE MERITS IS (OR REMAINS) CLOSED in this application. If not included herewith (or previously mailed), a Notice of Allowance (PTOL-85) or other appropriate communication will be mailed in due course. **THIS NOTICE OF ALLOWABILITY IS NOT A GRANT OF PATENT RIGHTS.** This application is subject to withdrawal from issue at the initiative of the Office or upon petition by the applicant. See 37 CFR 1.313 and MPEP 1308.

1. ☒ This communication is responsive to paper submitted 03/25/2004.
2. ☒ The allowed claim(s) is/are 1-12, 14, 18-30 and 33-37.
3. ☒ The drawings filed on 09 August 2000 are accepted by the Examiner.
4. ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
 - a) ☒ All b) ☐ Some* c) ☐ None of the:
 1. ☒ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this national stage application from the International Bureau (PCT Rule 17.2(a)).

* Certified copies not received: _____.

Applicant has THREE MONTHS FROM THE "MAILING DATE" of this communication to file a reply complying with the requirements noted below. Failure to timely comply will result in ABANDONMENT of this application.

THIS THREE-MONTH PERIOD IS NOT EXTENDABLE.

5. ☐ A SUBSTITUTE OATH OR DECLARATION must be submitted. Note the attached EXAMINER'S AMENDMENT or NOTICE OF INFORMAL PATENT APPLICATION (PTO-152) which gives reason(s) why the oath or declaration is deficient.
 6. ☐ CORRECTED DRAWINGS (as "replacement sheets") must be submitted.
 - (a) ☐ including changes required by the Notice of Draftsperson's Patent Drawing Review (PTO-948) attached
 - 1) ☐ hereto or 2) ☐ to Paper No./Mail Date _____.
 - (b) ☐ including changes required by the attached Examiner's Amendment / Comment or in the Office action of Paper No./Mail Date _____.
- Identifying indicia such as the application number (see 37 CFR 1.84(c)) should be written on the drawings in the front (not the back) of each sheet. Replacement sheet(s) should be labeled as such in the header according to 37 CFR 1.121(d).
7. ☐ DEPOSIT OF and/or INFORMATION about the deposit of BIOLOGICAL MATERIAL must be submitted. Note the attached Examiner's comment regarding REQUIREMENT FOR THE DEPOSIT OF BIOLOGICAL MATERIAL.

Attachment(s)

1. ☐ Notice of References Cited (PTO-892)
2. ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3. ☐ Information Disclosure Statements (PTO-1449 or PTO/SB/08), Paper No./Mail Date _____
4. ☐ Examiner's Comment Regarding Requirement for Deposit of Biological Material
5. ☐ Notice of Informal Patent Application (PTO-152)
6. ☐ Interview Summary (PTO-413), Paper No./Mail Date _____
7. ☒ Examiner's Amendment/Comment
8. ☒ Examiner's Statement of Reasons for Allowance
9. ☐ Other _____

MARK HELLNER
PRIMARY EXAMINER

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Mark Hellner

EXAMINER'S AMENDMENT

An examiner's amendment to the record appears below. Should the changes and/or additions be unacceptable to applicant, an amendment may be filed as provided by 37 CFR 1.312. To ensure consideration of such an amendment, it **MUST** be submitted no later than the payment of the issue fee.

Authorization for this examiner's amendment was given in a telephone interview with Mark Henry on 21 April 2004.

The application has been amended as follows: Examiner's amendments are directed to claims as presented in amendment submitted after final on 25 March 2004.

Claim 1, line 16 "to produce Raman amplification with residual" has been amended to --to produce Raman amplification, **in the L-Band**, with residual--.

Claim 18, line 16 "to produce Raman amplification with residual" has been amended to --to produce Raman amplification, **in the L-Band**, with residual--.

Claim 37, lines 9 and 10 "wherein excitation light passes through one of the optical amplifiers and the demultiplexer and provides Raman amplification on a pre-state of the demultiplexer" has been amended to --wherein excitation light passes through one of the optical amplifiers, **amplifying the first wavelength band**, and the demultiplexer **to provide** Raman amplification, **to the second wavelength band**, on a **pre-stage** side of the demultiplexer--.

The following is an examiner's statement of reasons for allowance: The nearest prior art is Ma et al. (US 6,151,160) which teaches a pre-stage Raman amplifier

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connected in series with a split band amplifier. Ma fails to disclose or suggest an apparatus:

a Raman amplification unit provided in series with the C-band optical amplifier and the L-band optical amplifier, on a pre-stage side, to produce Raman amplification, in the L-band, with residual excitation light output from the parallel arrangement of the C-band optical amplifier as described in instant claim 1; or

a Raman amplification unit provided in series with the C-band optical amplifier and the L-band optical amplifier, on a post-stage side, to produce Raman amplification, in the L-band, with residual excitation light output from the parallel arrangement of the C-band optical amplifier as described in instant claim 18; or

a Raman amplification unit provided in series with the C-band optical amplifier and the L-band optical amplifier, to produce Raman amplification for the optical signals in the L-band with the residual excitation light as described in instant claim 33; or

wherein excitation light passes through one of the optical amplifiers, amplifying the first wavelength band, and the demultiplexer to provide Raman amplification, to the second wavelength band, on a pre-stage side of the demultiplexer as described in instant claimed 37.

Regarding claims 34-36, see Office Action issued 21 October 2003 for reasons for indicating allowable subject matter.

Any comments considered necessary by applicant must be submitted no later than the payment of the issue fee and, to avoid processing delays, should preferably

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accompany the issue fee. Such submissions should be clearly labeled "Comments on Statement of Reasons for Allowance."

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Stephen C. Cunningham whose telephone number is 703-605-4275. The examiner can normally be reached on Monday - Friday.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Thomas Tarcza can be reached on 703-306-4171. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

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